

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended) An artificial tissue system, comprising:

(a) a biological matrix configured for contact with an outer surface of an implantable device and with a biological system, and

(b) a plurality of cells supported by said biological matrix, at least a portion of said cells being configured to enhance the lifespan of ~~promoting biocompatibility between~~ said implantable device ~~and a~~ when said device is implanted in the biological system.

Claim 2 (Original) The artificial tissue system of claim 1, wherein said cells include at least one member selected from the group consisting of biological cells, engineered cells, support cells, stem cells, artificial cells and hybrid cells.

Claim 3 (Canceled)

Claim 4 (Currently Amended) The artificial tissue system of claim 1, wherein a portion of said cells are configured to ~~enhance the lifespan and/or~~ the function of said implantable device.

Claims 5-8 (Canceled)

Claim 9 (Previously Presented) The artificial tissue system of claim 1, wherein said biological system is a mammal.

Claims 10-13 (Canceled)

Claim 14 (Previously Presented) The artificial tissue system of claim 1, wherein said implantable device is a sensor.

Claim 15 (Original) The artificial tissue system of claim 14, wherein said sensor is a glucose sensor.

Claim 16 (Previously Presented) The artificial tissue system of claim 1, wherein said biological matrix is configured to at least partially embed said implantable device.

Claims 17-18 (Canceled)

Claim 19 (Previously Presented) The artificial tissue system of claim 1, wherein said cells are configured to suppress deleterious reactions between said implantable device and said biological system and/or said artificial tissue system.

Claims 20-24 (Canceled)

Claim 25 (Previously Presented) The artificial tissue system of claim 1, wherein said system further comprises a support system and/or a delivery system comprising a gel, a paste and/or a polymer.

Claim 26 (Canceled)

Claim 27 (Previously Presented) An implant comprising an implantable device and the artificial tissue system of claim 1.

Claim 28 (Currently Amended) An implant system comprising:

- (a) an implantable device, and
- (b) a biological matrix in contact with an outer surface of said implantable device, and a plurality of cells supported by said biological matrix, said cells being

configured to enhance the lifespan of ~~promoting biocompatibility between~~ said implantable device when said device is implanted in ~~and~~ a biological system.

Claims 29-36 (Canceled)

Claim 37 (Currently Amended)) An artificial implant system in biological contact with a biological system comprising:

- (a) a cellular component, said cellular component includes at least one cellular community which induces a biological response in the biological system;
- (b) a biological matrix material comprising a basement membrane, said biological matrix material being associated with a portion of the cellular community; and
- (c) an implant device having an outer surface in contact with the biological matrix material, at least one of the biological matrix material and the cellular community increasing the lifespan of the implant device.

Claim 38 (Previously Presented) The artificial implant system in biological contact with a biological system of claim 37, wherein the lifespan of the implant device is increased by inducing neovascularization of the biological system.

Claim 39 (Previously Presented) The artificial implant system in biological contact with a biological system of claim 37, wherein the biological system is a mammal.

Claims 40-50 (Canceled)

Claim 51 (Previously Presented) The artificial tissue system of claim 1, wherein the biological matrix comprises a basement membrane.

Claim 52 (Previously Presented) The implant system of claim 28, wherein the biological matrix comprises a basement membrane.

Claim 53 (Canceled)

Claim 54 (Canceled)

Claims 55-58 (Canceled)

Claim 59 (Previously Presented) The artificial implant system of claim 37, wherein promotion of biocompatibility includes inhibition of at least one of inflammation and fibrosis.

Claims 60-65 (Canceled)

Claim 66 (Previously Presented) The system of claim 1, wherein the system is configured to test the effectiveness of an implantable device.

Claim 67 (Canceled)

Claim 68 (Previously Presented) The implant system of claim 28, wherein the implantable device comprises a sensor.

Claim 69 (Previously Presented) The implant system of claim 68, wherein the biological matrix comprises a basement membrane.

Claim 70 (Previously Presented) The artificial tissue system of claim 1, wherein said cells induce the growth of biological tissue in and/or between said biological system and/or said artificial tissue system.

Claim 71 (Previously Presented) The artificial tissue system of claim 70, wherein said biological tissue comprises vascular structures.

Claim 72 (Previously Presented) The artificial tissue system of claim 1, wherein said artificial tissue system further comprises at least one genetic element supported by said matrix.

Claim 73 (Previously Presented) The artificial tissue system of claim 1, wherein said artificial tissue system further comprises at least one response modifier supported by said matrix.

Claim 74 (Previously Presented) The artificial implant system in biological contact with a biological system of claim 39, wherein the lifespan of the implant device is increased by inducing neovascularization of the biological system.

Claim 75 (Previously Presented) The artificial implant system in biological contact with a biological system of claim 54, wherein the cellular component includes at least one member selected from the group consisting of normal vascular stem cells; a combination of normal vascular stem cells and engineered support cells; and a combination of normal vascular stem cells and engineered stem cells.

Claim 76 (Previously Presented) The artificial implant system in biological contact with a biological system of claim 75, wherein the basement membrane has cytokines bound thereto.

Claim 77 (Previously Presented) The artificial implant system in biological contact with a biological system of claim 37, wherein at least a portion of the cellular community is bound to the biological matrix.

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Claim 78 (Previously Presented) An implant system comprising an implantable device and a biological matrix comprising a basement membrane in contact with an outer surface of said implantable device, said ~~biological matrix~~ basement membrane enhancing the lifespan of ~~promoting biocompatibility between~~ said implantable device when said device is implanted in and a biological system.